

ABSTRACT OF THE DISCLOSURE

The problems can be solved by ensuring that $G_a \leq G_b < G_c$ or $G_a < G_b \leq G_c$, wherein G_a denotes a clearing between the bore on the portion from the compression chamber of the high pressure pump to the cylindrical groove and the plunger, where a transverse aperture is connected with the bore through a cylindrical groove provided halfway through the bore of a cylinder; G_b a clearance closer to the cylindrical groove, out of the clearances between the bore from the cylindrical groove to the drive source side and the plunger; and G_c a clearance closer to the drive source side, out of the clearances between the bore from the cylindrical groove to the drive source side and the plunger.